

REMARKS/ARGUMENTS

The present Amendment is responsive to the non-final Office Action mailed August 28, 2007 in the above-identified application.

Claims 1-13, 15, 16 and 19 are canceled without prejudice or disclaimer. Therefore, claims 14, 17, 18 and 20 are the claims currently pending in the present application.

Claim 14 is amended to clarify features recited thereby. The amendments to claim 14 are fully supported by Applicant's disclosure, see, for example, Specification, page 10, lines 11-21 and Figure 3.

Objection to Claims 9-11

Claims 9-11 are objected to under 37 C.F.R. § 1.75 on the ground that they substantially duplicate claims 2-4 respectively. Claims 9-11 are canceled without prejudice or disclaimer. Therefore this objection is moot.

Rejection of Claims 7, 8, 12 and 13 under 35 U.S.C. § 112, Second Paragraph

Claims 7, 8, 12 and 13 are rejected under 35 U.S.C. § 112, second paragraph, on the ground that they are indefinite because the term "the fixed mirror" lacks antecedent basis. Claims 7, 8, 12 and 13 are canceled without prejudice or disclaimer, and, accordingly, this rejection is moot.

Rejection of Claims 1-4 and 7-20 under 35 U.S.C. § 103

Claims 1-4 and 7-20 are rejected under 35 U.S.C. § 103 as being obvious from Applicant's admitted prior art (AAPA) in view of Ury et al. (U.S. Patent No. 5,334,913). Reconsideration of this rejection is respectfully requested.

Claim 14 requires a lighting apparatus using microwave energy, the apparatus comprising a rear mirror formed in a hemispherical shape having a curved surface integrally fixed to the bulb stem for forwardly reflecting light rearwardly admitted from the bulb, and a fixed mirror formed in a hemispherical shape having a curved surface fixed to the casing at the rear side of the bulb, wherein the center of the bulb is positioned at a focal point of both the curved surface of the rear mirror and the curved surface of the fixed mirror.

Without intending to limit the scope of the claims, an effect or advantage according to an aspect of the present invention as claimed in claim 14 is that the area of the rear mirror for reflecting light forward can be reduced because the rear mirror is positioned behind the bulb and the fixed mirror is positioned on the casing at a rear side of the rear mirror. Therefore, the amount of costly heat-resistive material that must be used can be reduced, as discussed, for example, at Applicant's disclosure, page 9, lines 15-18. In addition, since according to an aspect of the present invention as claimed in claim 14 the rear mirror and the fixed mirror are formed in hemispherical shapes having surfaces curved toward the bulb, unidirectionality of light may be improved.

Ury discloses a microwave-power discharge lamp that includes a non-conductive reflector within the microwave cavity for outwardly reflecting light emitted from the lamp.

Ury does not disclose or suggest a rear mirror formed in a hemispherical shape having a curved surface and a fixed mirror formed in a hemispherical shape having a curved surface, such that the center of the bulb is positioned at a focal point of both the curved surface of the rear mirror and the curved surface of the fixed mirror.

It is respectfully submitted that the above-cited features of claim 14 would not have been obvious from Uri and AAPA even taken together in combination, because Uri and the AAPA do not suggest or motivate for the modifications necessary to arrive at the proposed combination.

Turning to a related feature of claim 14, the Office Action asserts that since Ury discloses a plurality of pieces comprising reflector 21 designed for optical considerations, and that thus it would have been obvious to a person of ordinary skill in the art to design a fixed mirror having a hole diameter smaller than the width of the first rear mirror (inner rear mirror) so as to cover the entire back area of the bulb to increase the amount of reflection from the back to the front of the lighting (Office Action page 6). Ury discloses that the non-conductive reflector 21 may be comprised of a plurality of pieces, including an outer piece that may be *notched along its outer periphery to accommodate protrusions into the cavity* such as for conduit 69, if reflector 21 is placed at that level and other reasons such as optical considerations for designing the non-conductive reflector in a plurality of pieces (Ury, column 4, lines 1-9).

However, Ury does not disclose or suggest a fixed mirror fixed to the casing in the rear

side of the bulb and having a hole in which the bulb stem rearwardly extended from the bulb is rotatably inserted, wherein a diameter of the hole of the fixed mirror is formed to be smaller than a width of the rear mirror, as required by claim 14. Ury does not disclose or suggest such features and the Office Action seems to rely excessively on the vague sentence in Ury that "optical considerations may arise for designing the non-conductive reflector in a plurality of pieces."


Even taken together in combination, Ury and the AAPA do not disclose or suggest the above-noted features of claim 14. Accordingly, Ury and the AAPA do not disclose or suggest the recitations of claim 14.

Claims 17, 18 and 20 depend from claim 14 and are therefore patentably distinguishable over the cited art for at least the same reasons. Claims 1-4, 7-13, 15, 16 and 19 are canceled without prejudice or disclaimer and therefore the rejection is moot with respect to these claims.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

Respectfully submitted,

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